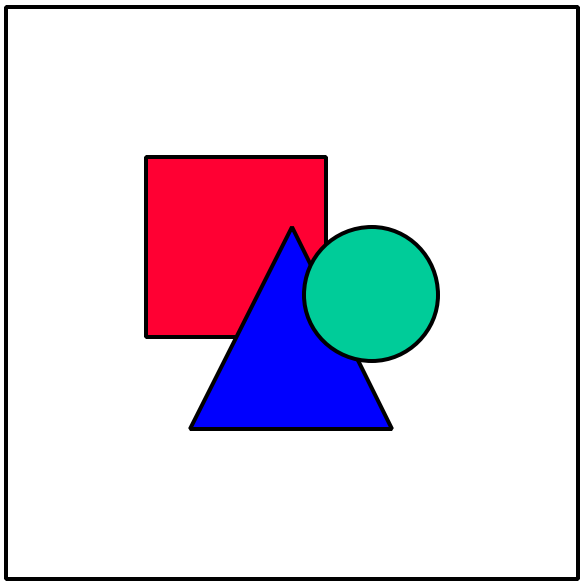

Approval # 970017-U

Safety & Buildings Division
201 East Washington Avenue
P.O. Box 7969
Madison, WI 53707

Wisconsin Material Approval

Material: Alert 2000-XB Precision Tank Test System - 4 Hour Test
Tank Tightness Testing Method

Manufacturer: Alert Technologies, Inc.
5400 Newport Drive, Suite 13
Rolling Meadows, IL 60008

SCOPE OF EVALUATION

The Alert 2000-XB Precision Tank Test System manufactured by Alert Technologies has been evaluated for use as a tank tightness testing system complying with **section ILHR 10.61 (3)** of the current edition of the Wisconsin Flammable and Combustible Liquids Code.

DESCRIPTION AND USE

The Alert 2000-XB Precision Tank Test System is a volumetric tank tightness testing method that directly measures change in product mass by detecting changes in the buoyancy of a probe. The Alert 2000-XB Precision Tank Test System tests the tank for leaks below the liquid level only. The System may be used for tanks containing gasoline, diesel fuel, aviation fuel, fuel oil #4, fuel oil #6, solvents, waste oil, motor oil, and other chemicals that will not attack the probe or instruments.

Tank deformation effects from delivery of product are addressed by waiting a specified period of time before beginning the testing.

Leak rates are determined by linear regression calculated on four hours of mass data. A threshold value of 0.05 gallon per hour is used to declare that a tank is leaking below the product level. Test results are considered inconclusive if there is an unexplained product volume increase or if excessive temperature changes occur in the riser pipe. The test should not be conducted if the groundwater level is in hydrostatic equilibrium with the product in the tank.

Lengthening the duration of the test beyond the minimum is an acceptable deviation in the standard test protocol. The total time required for a test with this method, including waiting time plus testing time, is typically 14 hours.

TESTS AND RESULTS

The performance of the Alert 2000-XB Precision Tank Test System was determined in accordance with the EPA protocol for automatic tank guaging systems. The Alert 2000-XB Precision Tank Test System was found to have a probability of false alarm ($P_{(FA)}$) of less than 5 percent. The probability of detection ($P_{(D)}$) of a 0.10 gallon per hour leak was found to be at least 95.5 percent.

The EPA test procedure only addressed the issue of the method's ability to detect leaks. The procedure did not address testing the equipment for safety hazards.

LIMITATIONS OF APPROVAL

Procedures specified by the manufacturer shall be used to install and maintain all equipment and to conduct all tests.

Used alone, the Alert 2000-XB Precision Tank Test System is approved for use as a method of tank tightness testing specified in **s. ILHR 10.61 (3)** for tanks at least 95 percent full but not overfilled.

The Alert 2000-XB Precision Tank Test System may be combined with the Alert 1050 or 1050-X ullage test systems to test tanks that are at least 50 percent full but not more than 95 percent full. The combined systems meet the requirements of **s. ILHR 10.61 (3)**.

The Alert 2000-XB Precision Tank Test System is approved for tank sizes no larger than 75,000 gallons.

The difference between the temperature of added product and in-tank product shall be no greater than + or - 2.6 °F.

The waiting time between filling the tank and the start of the test data collection shall be at least 10 hours. The total time for data collection shall be at least 4 hours.

This approval will be valid through December 31, 2002, unless manufacturing modifications are made to the product or a re-examination is deemed necessary by the Department. The Wisconsin Material Approval Number must be provided when plans that include this product are submitted for review.

DISCLAIMER

The Department is in no way endorsing or advertising this product. This approval address only the specified applications for the product and does not waive any code requirements not specified in this document.

Reviewed by: _____

Approval Date: _____ By: _____

Sam Rockweiler, P.E.
Code Development Section
Program Development Bureau

SR:970017-U